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SUBJECT: SECOND READING OF ORDINANCE NO. 1736 (2024 SERIES) TO
ADOPT THE ENERGY EFFICIENT RENOVATIONS POLICY

RECOMMENDATION

1. Adopt Ordinance No. 1736 (2024 Series) entitled, “An Ordinance of the City Council of the City of San Luis Obispo, California, adopting Local Amendments to Part 6 of the Building Construction and Fire Prevention Code, 2023” approving the Energy Efficient Renovations Policy for major residential additions and alterations; and
2. Direct staff to submit the approved local amendments and accompanying required submittal forms and information to the California Energy Commission to initiate the local amendments to California Energy Code review and approval process.

POLICY CONTEXT

- [Land Use Element of the General Plan:](#)
 - Policy 9.4 (Climate Action Plan) - The City shall maintain and implement its Climate Action Plan to reduce community and municipal greenhouse gas (“GHG”) emissions consistent with State laws and objectives.
 - Policy 9.7 (Sustainable Design) - The City shall promote and, where appropriate, require sustainable building practices that consume less energy, water and other resources, facilitate natural ventilation, use daylight effectively, and are healthy, safe, comfortable, and durable.
- [Conservation and Open Space Element of the General Plan:](#)
 - Policy 2.2.1 (Atmospheric Change) - City actions shall seek to minimize undesirable climate changes and deterioration of the atmosphere’s protective functions that result from the release of carbon dioxide and other substances.
 - Goal 4.2 (Sustainable energy use) - Increase use of sustainable energy sources such as solar, wind and thermal energy, and reduce reliance on non-sustainable energy sources to the extent possible with available technology and resources.

- Climate Adaptation and Safety Element of the General Plan:
 - Policy HE-4.3 (Green and Healthy Buildings) - The City shall support fuel switching retrofits (from fossil fuel to high-efficiency electric appliances), energy efficiency retrofits, and distributed energy resources as low-carbon solutions to create safe, cool, and healthy buildings and consider programs and projects that support these retrofits as critical to maintaining community safety and to supporting disaster preparedness.
- Resolution 11159 (2020 Series) adopted the Climate Action Plan for Community Recovery with the goal of community carbon neutrality by 2035 and a sub-goal of 50 percent reduction in emissions from existing buildings by 2030.
- Resolution No. 11381 (2022 Series) reaffirmed these goals and created a work program for fiscal years 2023-27, including Green Buildings Action 2.1.E, which directs staff to, “Develop an equitable framework for requiring electrification retrofits and develop cost effective building electrification policies for additions and alterations.”
- 2023-25 Financial Plan Climate Action Major City Goal action 4.1.i directs staff to conduct a study session, and pending Council direction, develop an equitable framework for cost-effective building electrification retrofit policies, with an initial focus on additions and alterations, as called for by CAP Green Buildings Task 2.1.E. Staff conducted the study session on December 4, 2023 and received strategic direction to return with an additions and alterations policy in 2024.

DISCUSSION

Background

On May 21, 2024, the City Council voted 3-1 (Council Member Pease recused) to introduce Ordinance No. 1736, which provides local amendments (also referred to as a “reach code”) to the California Energy Code for the purpose of reducing energy use and reducing greenhouse gas emissions in major additions and alterations to single family residential buildings in support of the City’s climate action goals. The Ordinance is provided as Attachment A.

Public Resources Code Section 25402.1(h)(2) and Section 10-106 of the Building Energy Efficiency Standards establish a process that allows local adoption of energy standards that are more stringent than the statewide standards. Under this process, the California Energy Commission requires any local amendments to the California Energy Code that affect energy use in regulated buildings to be cost effective and use less energy than the standard requirements. At the May 21, 2024 meeting, Council found the amendments proposed in the Ordinance to reduce energy and to be cost effective.¹ These findings were based on cost effectiveness studies conducted by the California Energy Codes and Standards Statewide Utility Program (Attachment B).

¹ The May 21, 2024 Council Agenda Report is available at: <https://pub-slocity.escribemeetings.com/filestream.ashx?DocumentId=13442>

Previous Council or Advisory Body Action

Previous Council Action is described in detail in the May 21, 2024 Council Agenda Report. The ordinance proposed for adoption was introduced at the [City Council meeting on May 21, 2024](#).

Public Engagement

The City conducted a public engagement process as outlined in the [May 21, 2024 Council Agenda Report](#).

CONCURRENCE

Staff from Administration, Community Development, and the City Attorney's Office concur with this report.

ENVIRONMENTAL REVIEW

Staff's recommendations are found to be exempt from CEQA under the general rule, 15061(b)(3), because it can be seen with certainty that the provisions contained herein would not have the potential for causing a significant effect on the environment. Further, this ordinance is also exempt from CEQA under the categorical exemptions in Section 15308 of the CEQA Guidelines in that the proposed ordinance would institute regulatory requirements intended to protect the environment and natural resources.

FISCAL IMPACT

Budgeted: Yes

Budget Year: 2023-24

Funding Identified: Yes

Fiscal Analysis:

Funding Sources	Total Budget Available	Current Funding Request	Remaining Balance	Annual Ongoing Cost
General Fund	\$	\$	\$	\$
State				
Federal				
Fees				
Other:				
Total	\$	\$	\$	\$

The reach code requirements will be implemented through the building permit review process. There may be costs associated with training staff and providing additional support to the community during the implementation of this program. If implementation of this program impacts time required to review permit plans, then fees for review of building permit plans may increase to absorb the cost, but any impacts are expected to be marginal. Some of this additional work can be directly supported by the 3C-REN Energy Code Coach Program, which provides technical support for code interpretation. Funded under the auspices of the California Public Utilities Commission, Energy Code Coach is free to the user and can be accessed at no cost by project applicants and City staff.

ALTERNATIVES

1. ***Council could request more information, suggest changes, or request that the proposed local amendments to the California Energy Code be presented for adoption at a later date.*** Should Council pursue this alternative, staff requests specific direction and feedback.
2. ***Council could request that the local amendments to the California Energy Code be modified.*** Should Council pursue this alternative, the modified amendments would need to be brought before Council again to be reintroduced prior to a second additional meeting where it could be adopted.
3. ***Council could take no action and direct staff to pursue other initiatives.*** This action is not recommended by staff because it is inconsistent the City's climate action goals and prior Council direction and adopted policy. Should Council pursue this alternative, staff requests specific further direction.

ATTACHMENTS

- A - Ordinance No. 1736 (2024 Series)
- B - 2024 Single Family Cost-Effectiveness Study

ORDINANCE NO. 1736 (2024 SERIES)

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN LUIS OBISPO, CALIFORNIA, ADOPTING LOCAL AMENDMENTS TO PART 6 OF THE BUILDING CONSTRUCTION AND FIRE PREVENTION CODE, 2023

WHEREAS, greenhouse gas accumulation in the atmosphere as the result of human activity is the primary cause of the global climate crisis; and

WHEREAS, in California alone, the initial impacts of climate change have resulted in unprecedented disasters with tremendous human, economic, and environmental costs and;

WHEREAS, the Intergovernmental Panel on Climate Change estimates that global emissions need to be reduced by 45 percent from 2010 levels by 2030, and 100 percent by 2050 to prevent global catastrophe; and

WHEREAS, the State of California enacted Assembly Bill (AB) 1279 to require statewide carbon neutrality "as soon as possible," but no later than 2045; and

WHEREAS, City of San Luis Obispo residents and businesses have repeatedly identified climate action as a top community priority; and

WHEREAS, Resolution 11159 (2020 Series) adopts the City of San Luis Obispo Climate Action Plan for Community Recovery, which includes a communitywide goal of carbon neutrality by 2035 and sector specific goal of reducing emissions from existing buildings by half by 2030; and

WHEREAS, Resolution 11381 (2022 Series) reaffirmed these communitywide and sector specific goals; and

WHEREAS, the inventoried greenhouse gas emissions in the City of San Luis Obispo come from a variety of sources, primarily transportation and energy use in buildings and facilities; and

WHEREAS, in order to achieve carbon neutrality, existing sources of greenhouse gas emissions need to be substantially reduced or eliminated; and

WHEREAS, Public Resources Code Section 25402.1 (h)(2) allows local agencies to adopt local amendments that are cost-effective and that result in buildings that use less energy than would otherwise be required by the California Energy Code; and

WHEREAS, the California Energy Codes and Standards Statewide Utility Program, has determined specific modifications to the 2022 State Energy Code for each climate zone that are cost-effective; and that such modifications will result in designs that consume less energy than they would under the 2022 State Energy Code; and

WHEREAS, staff has reviewed the “2022 Code Cycle: Custom Cost Effectiveness Analysis - City of San Luis Obispo” existing building cost-effectiveness study, and finds it sufficient to illustrate compliance with the requirements set forth under California Administrative Code Chapter 10-106; and

WHEREAS, based on these studies, the City finds the proposed local amendments to the 2022 California Energy Code to be cost-effective and consume less energy than permitted by Title 24, Part 6; and

WHEREAS, the 2022 California Energy Code offers compliance options that were established through the public rulemaking process of the code update; and

WHEREAS, the Council expressly declares that the proposed amendments to the Energy Code are reasonably necessary because of local climatic, topological, and geological conditions; and

WHEREAS, the requirements specified in this Ordinance were reviewed via public comment and through a publicly noticed public hearing process.

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of San Luis Obispo as follows:

SECTION 1. Purpose. It is the purpose and intent of this Ordinance to establish standards for single-family residential retrofits including major additions and alterations that exceed minimum 2022 Title 24 Part 6 requirements.

SECTION 2. Adoption. The local amendments to Part 6 of the City of San Luis Obispo Building Construction and Fire Prevention Code, 2023 (SLOMC Section 15.02.060) as specified in Exhibit A, are hereby adopted by the City of San Luis Obispo to be codified under Chapter 15.02.060 and Chapter 15.04.065. The Council hereby adopts the recitals herein as separate and additional findings of fact in support of adoption of the ordinance.

SECTION 3. Severability. If any word, phrase sentence part, section, subsection or other portion of this amendment or any application thereof to any person or circumstance is declared void, unconstitutional, or invalid for any reason, then such word, phrase, sentence, part, section, subsection, or other portion, or the prescribed application thereof, shall be severable, and the remaining provisions of this amendment, and all applications thereof, not having been declared void, unconstitutional or invalid, shall remain in full force and effect.

SECTION 5. Findings. The City Council finds that each of the changes or modifications to measures referred to therein are reasonably necessary because of local climatic, geological, or topographical conditions in the area encompassed by the boundaries of the City of San Luis Obispo, and the City Council adopts the following findings in support of local necessity for the changes or modifications:

1. San Luis Obispo is situated along a wildland-urban interface and has been identified as a Community at Risk from wildfire and is extremely vulnerable to wildfires and firestorms, and human activities releasing greenhouse gases into the atmosphere cause increases in worldwide average temperature, drought conditions, vegetative fuel, and length of fire seasons- contributing to the likelihood and consequences of fire.
2. The City of San Luis Obispo is situated at the base of a watershed of the Santa Lucia Mountains and flooding of San Luis, Chorro, Stenner, Old Garden, and Brizzolara Creeks results in conditions rendering fire department vehicular traffic unduly burdensome or impossible, as witnessed in major floods that occurred in 1952, 1961, 1969, 1973, 1978, 1982, 1995, and 2023. Furthermore, flood conditions described above create the potential for overcoming the ability of the fire department to aid or assist in fire control, evacuations, rescues and other emergency task demands inherent in such situations. The resulting overburdening of fire department personnel may cause a substantial or total lack of protection against fire for the buildings and structures located in the City of San Luis Obispo. The afore-described conditions support the imposition of fire protection requirements greater than those set forth in the California State Building Standards Code and support the imposition of more restrictive requirements than set forth in the California Energy Code for the purpose of reducing the City's contributions to Greenhouse Gas Emissions resulting in a warming climate and related severe weather events.
3. The aforementioned flood and rain events result in conditions wherein stormwater can inundate the wastewater treatment system as witnessed in major floods that occurred in 1952, 1961, 1969, 1973, 1978, 1982, and 1995. Furthermore, rain events and flood conditions described above create a condition referred to as Inflow and Infiltration (I/I) that allow rain and flood waters to flow and/or seep into the wastewater system and overcome the ability of the wastewater collection system and Water Reclamation Facility (WRF) to convey and treat sewage. The resulting overburdening of the wastewater system can result in threats to public health, public and private property and water quality and violations and fines from the State of California, the Environmental Protection Agency (EPA) or others. To the extent that climate change has the potential to make these conditions worse, more restrictive Energy Code requirements to achieve reduced greenhouse gas emissions are necessary.

4. Seasonal climatic conditions during the late summer and fall create numerous serious difficulties in the control and protection against fire situations in the City of San Luis Obispo. The hot, dry weather in combination with Santa Lucia (offshore) winds frequently results in wildland fires in the brush-covered slopes on the Santa Lucia Mountains, San Luis Mountain, and the Irish Hills areas of the City of San Luis Obispo. The aforementioned areas surround the City. When a fire occurs in said areas, such as occurred in 1985 when the Los Pilitas fire burned six days and entered the City and damaged many structures, the entirety of local fire department personnel is required to control, monitor, fight and protect against such fire situations in an effort to protect life and preserve property and watershed land. The same climatic conditions may result in the concurrent occurrence of one or more fires in the more populated areas of the City without adequate fire department personnel to protect against and control such a situation. Therefore, the above-described findings support the imposition of measures to increase the efficiency of existing buildings in the City to reduce greenhouse gas emissions.
5. Failure to address and substantially reduce greenhouse gas emissions creates an increased risk to the health, safety, and welfare of City residents.
6. The standards imposed by this Ordinance are necessary because of local climatic, geological, or topographical conditions evidenced above and are cost-effective, as supported by the “2022 Code Cycle: Custom Cost Effectiveness Analysis - City of San Luis Obispo” cost effectiveness study prepared by the California Energy Codes and Standards Statewide Utility Program. Specifically, the City finds that there are at least five cost effective measure packages:
 - Package 1, installing the efficiency measure of R-30 Floor Insulation would save energy relative to the base code and would achieve a benefit to cost ratio of 1.4 on an on-bill basis.
 - Package 2, installing the efficiency measure of R-19 Floor Insulation would save energy relative to the base code and would achieve a benefit to cost ratio of 1.4 on an on-bill basis.
 - Package 3 to installing a Heat Pump Water Heater (HPWH), would save energy relative to the base code and would achieve a benefit to cost ratio of 1.6 on a “Long-term System Cost” (LSC basis).
 - Package 4, Heat Pump Space Heater, would save energy relative to the base code and would achieve a benefit to cost ratio of 4.2 on an LSC basis.
 - Package 5 to install PV + Electric Ready Pre-Wiring would save energy relative to the base code and would achieve a benefit to cost ratio of 1.4 on an on-bill basis.

SECTION 6. CEQA. This ordinance is categorically exempt from CEQA because it is an action taken by a regulatory agency for the purpose of protecting the environment (CEQA Guidelines Section 15308). In addition, this ordinance is exempt from CEQA under the general rule, 15061(b)(3), on the grounds that these standards are more stringent than the State energy standards, there are no reasonably foreseeable adverse impacts, and there is no possibility that the activity in question may have a significant effect on the environment. The following findings are made in support of these determinations:

1. The purpose of the implementation of a Reach Code is to reduce the amount of greenhouse gas emissions in the City of San Luis Obispo that are produced from buildings.
2. The Reach Code approval process requires that the City determines that the local standards will require buildings to use no more energy than current statewide requirements. Furthermore, the California Energy Commission approval process requires that the City make the findings as part of its approval process. Therefore, the Reach Code standards can only go into effect if they protect the environment by making buildings more efficient.

SECTION 7. Violations. Violation of the requirements of this Ordinance shall be considered, at the City's election, an infraction of the City of San Luis Obispo Municipal Code punishable by all sanctions prescribed in Chapter 1.12, or an administrative violation punishable as provided under Chapter 1.24.

SECTION 8. Effective Date. Pending approval by the California Energy Commission, this Ordinance shall be effective on January 1, 2025.

SECTION 9. Ordinance Summary. A summary of this ordinance, together with the names of Council members voting for and against, shall be published at least five (5) days prior to its final passage, in The New Times, a newspaper published and circulated in this City. This ordinance shall go into effect at the expiration of thirty (30) days after its final passage.

INTRODUCED on the 21st day of May 2024, **AND FINALLY ADOPTED** by the Council of the City of San Luis Obispo on the ____ day of _____, 2024, on the following vote:

AYES:
NOES:
ABSENT:

Mayor Erica A. Stewart

ATTEST:

Teresa Purrington
City Clerk

APPROVED AS TO FORM:

J. Christine Dietrick
City Attorney

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of San Luis Obispo, California, on _____.

Teresa Purrington, City Clerk

Exhibit A**Section 15.02.060****Amend Section 15.020.060 to read as follows:**

The City of San Luis Obispo hereby adopts the 2022 California Energy Code as Part 6 of the San Luis Obispo Building Construction and Fire Prevention Code, 2023. Except as otherwise provided herein, or as later amended in Section 15.04.060 and 15.04.065, or affected by San Luis Obispo Health and Safety Code Chapter 8.11, Part 6 of the San Luis Obispo Building Construction and Fire Prevention Code, 2023, shall be as published in the California Energy Code, 2022 Edition, and as copyrighted by the California Building Standards Commission, California Code of Regulations, Title 24, Part 6, including all of its tables, indices, appendices, addenda and footnotes. Said California Energy Code is hereby referred to and by such reference is incorporated herein as if fully set forth.

Section 15.04.065**AMENDMENTS – ENERGY STANDARDS – ADDITIONS AND ALTERATIONS****A. Adoption of Codes and Applicability**

The effective date of this ordinance shall be January 1, 2025 and is applicable to existing single family residential buildings. The amendments contained in 15.04.065 do not apply to repairs to buildings.

B. Add the following definitions to Subchapter 1, Section 100.1(b):

MAJOR ADDITION is any change to an existing building that increases conditioned floor area by 500 or more square feet in a one-year period.

MAJOR ALTERATION is any construction or renovation to an existing structure other than a repair or alteration whose work area covers 500 or more square feet in a one-year period. A project that consists only of roof and/or window replacement is not considered a Major Alteration.

WORK AREA That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.

C. Amend Section 150.0 SINGLE-FAMILY RESIDENTIAL BUILDINGS – MANDATORY FEATURES AND DEVICES to read as follows:

Single-family residential buildings shall comply with the applicable requirements of Sections 150.0(a) through 150.0(w).

D. Add new Section 150(w) to read as follows:**(w) Mandatory Requirements for Existing Building Additions and Alterations. Existing Building Additions and Alterations shall meet the requirements of Items 1 through 4 below, as applicable:**

1. **Major addition.** Any Major Addition shall install a set of measures from the Measure Menu Table, Table 150.0-I to achieve a total score that is equal to or greater than 8. In addition, all mandatory measures listed in Table 150.0-I shall be installed. Measure verification shall be explicitly included as an addendum to the Certificate of Compliance to be filed pursuant to 2022 Title 24 Section 10-103. Installed measures shall meet the specifications in Table 150.0-J.
2. **Major alteration.** Any major alteration shall install a set of measures from the Measure Menu Table, Table 150.0-I to achieve a total score that is equal to or greater than 8. In addition, all mandatory measures listed in Table 150.0-I shall be installed. Measure verification shall be explicitly included as an addendum to the Certificate of Compliance to be filed pursuant to 2022 Title 24 Section 10-103. Installed measures shall meet the specifications in Table 150.0-J.
3. **Combination major addition and alteration.** Any project that includes an addition and alteration that has a work area equal to or greater than 500 square feet shall install a set of measures from the Measure Menu Table, Table 150.0-I to achieve a total score that is equal to or greater than 8. In addition, all mandatory measures listed in Table 150.0-I shall be installed. Measure verification shall be explicitly included as an addendum to the Certificate of Compliance to be filed pursuant to 2022 Title 24 Section 10-103. Installed measures shall meet the specifications in Table 150.0-J.
4. **Electric Readiness.** Any major addition, major alteration, or combination major addition and alteration that includes a new electrical panel and electrical service upgrade to 200A or more shall include electric readiness components per 150.0(n)1(A)-(B) and 150.0(t)

Exception 1 to Section 150.0(w): The project is the result of a repair as defined by Title 24 Part 2 Section 202.

Exception 2 to Section 150.0(w): If compliance costs exceed 10% of total project valuation, or due to conditions specific to the project, it is technically infeasible to achieve compliance through any available set of measures, the applicant may request an exemption as set forth below. In applying for an exemption, the burden is on the applicant to show hardship or infeasibility.

(1) Application. Based on the following, the applicant shall identify in writing the specific requirements of the standards for compliance that the project is unable to achieve and the circumstances that make it a hardship or infeasible for the project to comply with this chapter. The applicant may not petition for relief from any requirement of the 2022 California Energy Code (Title 24, Part 6) and referenced standards, or the 2022 California Green Building Standards (Title 24, Part 11) of the California Building Standards Code. Circumstances that constitute hardship or infeasibility shall include one of the following:

- i. That the cost of achieving compliance is disproportionate to the overall cost of the project (i.e., compliance exceeds 10% of total project cost);
- ii. That it is technically infeasible to achieve compliance through any available set of measures.
- iii. That strict compliance with these standards would create or maintain a hazardous condition(s) and present a life safety risk to the occupants.

(2) Granting of exemption. If the chief building official determines that it is a hardship or infeasible for the applicant to fully meet the requirements of this chapter and that granting the requested exemption will not cause the building to fail to comply with the 2022 California Energy Code (Title 24, Part 6) and referenced standards, or the 2022 California Green Building Standards (Title 24, Part 11) of the California Building Standards Code, the chief building official shall determine the minimum feasible threshold of compliance reasonably achievable for the project. If an exemption is granted, the applicant shall be required to comply with this chapter in all other respects and shall be required to achieve the threshold of compliance determined to be achievable by the chief building official.

(3) Denial of exemption. If the chief building official determines that it is reasonably possible for the applicant to fully meet the requirements of this chapter, the request shall be denied, and the applicant shall be notified of the decision in writing. The project and compliance documentation shall be modified to comply with the standards for compliance.

(4) Appeal. Any aggrieved applicant or person may appeal the determination of the chief building official regarding the granting or denial of an exemption or compliance with any other provision of this chapter. An appeal of a determination of the chief building official shall be filed in writing.

Exception 3 to Section 150.0(w): If the dwelling unit has previously installed measures from the Measure Menu, Table 150.0-I, and compliance can be demonstrated to the building official, then these measures shall not be required to be newly installed.

Exception 4 to Section 150.0(w): The applicant may request an exemption to any requirements of this chapter which would impair the historic integrity of any building listed on a local, state, or federal register of historic structures, as determined by the chief building official and as regulated by the California Historic Building Code (Title 24, Part 8). In making a determination of exemption, the chief building official may require the submittal of an evaluation by an architectural historian or similar expert.

Exception 5 to Section 150.0(w): An alteration that consists solely of seismic safety improvements.

Exception 6 to Section 150.0(w): An alteration that consists solely of roof and/or window projects.

Exception 7 to Section 150.0(w): When an addition or alteration results in the creation of a new residential unit, the square footage of that unit shall not be counted towards the 500 square foot “Major” addition, alteration, or addition and alteration threshold.

D. Add new Table 150.0-I to read as follows:

Table 150.0-I: Measure Menu

Measures	Target Score 8
E1 - LED lamps and Exterior Photocells	Mandatory
E2 - Water Heating Package	1
E3 - Air Sealing	1
E4 - R-49 Attic Insulation	2
E5 - Duct Sealing	2
E6 - New Ducts + Duct Sealing	4
E7 - Windows	3
E8 - R-19 Floor Insulation	8
E9 - R-30 Floor Insulation	10
E10 - Heat Pump Water Heater (HPWH)	12
E11 - Heat Pump Space Heater	11
ER1 - Solar PV + Electric Ready Pre-Wire	13
Note: the measures in the Measure Menu table shall conform to the specifications in Table 150.0-J	

E. Add new Table 150.0-J to read as follows:

Table 150.0-J: Measure Specifications

ID	Measure Specification
Energy Efficiency Measures	
E1	Lighting Measures – Replace all interior and exterior screw-in incandescent, halogen, and compact fluorescent lamps with LED lamps. Install photocell controls on all exterior lighting luminaires consistent with current Title 24 requirements for new single family residential buildings. Alternative means of exterior lighting timing controls, including smart home devices, may be approved.
E2	Water Heating Package: Add exterior insulation meeting a minimum of R-6 to existing storage water heaters. Insulate all accessible hot water pipes with pipe insulation a minimum of ¾ inch thick. This includes insulating the supply pipe leaving the water heater, piping to faucets underneath sinks, and accessible pipes in attic spaces or crawlspaces. Upgrade fittings in sinks and showers to meet current California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements. Water heaters 20 gallons or less, or water heaters that are not able to add exterior insulation may not take credit for this measure.
E3	Air Sealing: Seal all accessible cracks, holes, and gaps in the building envelope at walls, floors, and ceilings. Pay special attention to penetrations including plumbing, electrical, and mechanical vents, recessed can light luminaires, and windows. Weather-strip doors if not already present. Compliance shall be demonstrated with blower door testing conducted by a certified HERS Rater no more than three years prior to the permit application date that either: a) shows at least a 30 percent reduction from pre-retrofit conditions; or b) shows that the number of air changes per hour at 50 Pascals pressure difference (ACH50) does not exceed ten for Pre-1978 vintage buildings, seven for 1978 to 1991 vintage buildings and five for 1992-2010 vintage buildings. If combustion appliances are located within the pressure boundary of the building, conduct a combustion safety test by a professional certified by the Building Performance Institute in accordance with the ANSI/BPI-1200-S-2017 Standard Practice for Basic Analysis of Buildings, the Whole House Combustion Appliance Safety Test Procedure for the Comfortable Home Rebates Program 2020 or the California Community Services and Development Combustion Appliance Safety Testing Protocol.
E4	R-49 Attic Insulation: Attic insulation shall be installed to achieve a weighted assembly U-factor of 0.020 or insulation installed at the ceiling level shall have a thermal resistance of R-49 or greater for the insulation alone. Recessed downlight luminaires in the ceiling shall be covered with insulation to the same depth as the rest of the ceiling. Luminaires not rated for insulation contact must be replaced or fitted with a fire-proof cover that allows for insulation to be installed directly over the cover. In buildings where existing R-30 is present and existing recessed downlight luminaires are not rated for insulation contact, insulation is not required to be installed over the luminaires.
E5	Duct Sealing: Air seal all space conditioning ductwork to meet the requirements of the 2022 Title 24 Section 150.2(b)1E. The duct system must be tested by a HERS Rater no more than three years prior to the alteration or addition permit application date to verify the duct sealing and confirm that the requirements have been met. This measure may not be combined with the New Ducts and Duct Sealing measure in this Table. Buildings without ductwork or where the ducts are in conditioned space may not take credit for this measure.
E6	New Ducts and Duct Sealing: Replace existing space conditioning ductwork with new R-8 ducts that meet the requirements of 2022 Title 24 Section 150.0(m)11. This measure may not be combined with the Duct Sealing measure in this Table. To qualify, a preexisting measure must have been installed no more than three years before the alteration or addition permit application date.
E7	Windows: Replace at least 50% of existing windows with high performance windows with an area-weighted average U-factor no greater than 0.30.

E8	R-19 Floor Insulation: Raised-floors shall be insulated such that the floor assembly has an assembly U-factor equal to or less than U-0.037, or shall be insulated between wood framing with insulation having an R-value equal to or greater than R-19.
E9	R-30 Floor Insulation: Raised-floors shall be insulated such that the floor assembly has an assembly U-factor equal to or less than U-0.028, or shall be insulated between wood framing with insulation having an R-value equal to or greater than R-30.
E10	Heat Pump Water Heater (HPWH): Replace existing electric resistance or natural gas storage water heater with a heat pump water heater.
E11	Heat Pump Space Heater: Replace all existing gas and electric resistance space heating systems with an electric-only heat pump system.
Solar PV and Electric-Readiness Measures	
ER1	<p>PV and Electric Ready Pre-Wire: Install a solar PV system that meets the requirements of 2022 Title 24 Section 150.1(c)14. In addition to the solar PV system, Include electric readiness components per 150.0(n)1(A)-(B) and 150.0(t) and one of:</p> <ul style="list-style-type: none"> A. Energy Storage Systems (ESS) Ready, as specified in Section 150.0(s), or B. EV Charger Ready as specified in the California Green Building Code, Title 24, Part 11, Section A4.106.8.1, which otherwise applies to new construction.

F. Modify Section 150.2(a) ENERGY EFFICIENCY STANDARDS FOR ADDITIONS AND ALTERATIONS TO EXISTING SINGLE FAMILY RESIDENTIAL BUILDINGS to read as follows:

Additions. Additions to existing single-family residential buildings shall meet the requirements of Sections 110.0 through 110.9, Sections 150.0(a) through (n), (p), (q), (w) and either Section 150.2(a)1 or 2.

G. Modify Section 150.2(b) ENERGY EFFICIENCY STANDARDS FOR ADDITIONS AND ALTERATIONS TO EXISTING SINGLE FAMILY RESIDENTIAL BUILDINGS to read as follows:

Alterations. Alterations to existing single-family residential buildings or alterations in conjunction with a change in building occupancy to a single-family residential occupancy shall meet either Item 1 or 2 below.

1. Prescriptive approach. The altered component and any newly installed equipment serving the alteration shall meet the applicable requirements of Sections 110.0 through 110.9 and all applicable requirements of Sections 150.0(a) through (l), 150.0(m)1 through 150.0 (m)10, 150.0(p) through (q), and 150.0(w); and
2. Performance approach. The altered component(s) and any newly installed equipment serving the alteration shall meet the applicable requirements of Subsections A, B, and C below.
 - a. The altered components shall meet the applicable requirements of Sections 110.0 through 110.9, Sections 150.0(a) through (l), Sections 150.0(m)1 through 150.0 (m)10, Sections 150.0(p) through (q), and Section 150.0(w). Entirely new or complete replacement mechanical ventilation systems as these terms are used in Section 150.2(b)1L, shall comply with the requirements in Section 150.2(b)1L. Altered mechanical ventilation systems shall comply with the requirements of Section 150.2(b)1M. Entirely new or complete replacement space-conditioning systems, and entirely new or complete replacement duct systems, as these terms are used in Sections 150.2(b)1C and 150.2(b)1Diia, shall comply with the requirements of Sections 150.0(m)12 and 150.0(m)13.